

Melksham Road, Holt

Drainage Technical Note

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Issue	Page(s)	Issue Date	Additions/Alterations	Initials
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1. Introduction

- 1.1 Morgan Civil & Structural were instructed by Redcliffe Homes Ltd to produce a foul and surface water drainage strategy for a development on Land North of Melksham Road, Holt.
- 1.2 The development will consist of 55 dwellings with associated drainage, access, hard and soft landscaping.
- 1.3 This technical note and supporting drainage strategy plan is further to the outline application reference PL/2024/05435.
- 1.4 The drainage design has been developed in line with LLFA guidance and Sustainable Drainage Systems (SuDS) principles.

Background

- 1.5 The purpose of this technical note is to develop design principles established as part of outline planning application PL/2024/05435 and subsequent correspondence between Morgans C&S and the LLFA.
- 1.6 As part of application PL/2024/05435, Phoenix Design produced a Flood Risk Assessment, ref 607-Flood Risk Assessment and Drainage Strategy-Rev C.
- 1.7 Key information extracted from Phoenix Design's approved documentation, is as follows:
 - The site area is 3.1 ha of existing farmland (greenfield), located on the northeast edge of Holt, bordered by hedgerows/trees.
 - Existing topography falls from south to north.
 - Underlying geology: Kellaways Formation (sandstone, siltstone, mudstone) with clay to clayey loam soils (Soil Index 0.47), unsuitable for infiltration drainage.
 - Located within Flood Zone 1 (low probability) and outside any Flood Alert or Warning Areas.
 - No identified risk from overland flow, groundwater, reservoirs, or sewers.
 - Nearest watercourse: Chalfield Brook, 150 m north of site.
 - Source Protection Zone 1 (SPZ1) designation.
 - Greenfield runoff rates for the 1.3875 ha developable area is 7.66 l/s.

Preliminary discharge rates

Rainfall Return Period	Peak Discharge
Q1 (1 year existing green-field run-off)	4.8 l/s
Q30 (30 year existing green-field run-off) +35% climate change	6.6 l/s
Q100 (100 year existing green-field run-off) +40% climate change	7.5 l/s

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- Post-development runoff will be attenuated to QBAR rate (7.66 l/s) with 20% betterment to 6l/s for 1-year events.
- Proposed surface water drainage discharges to Chalfield Brook via attenuation basin with Hydro-Brake flow control.
- Foul drainage will be pumped to an existing Wessex Water foul asset in Melksham Road.

2. Existing Site Conditions & Drainage

- 2.1 The existing site conditions and drainage are key to how the proposed drainage system should function for this development.
- 2.2 The site is located on the northeast edge of Holt, Wiltshire, approximately 3km west of Melksham. It covers 3.1ha and consists of existing farmland bordered by hedgerows/trees. A Wessex Water compound (covered reservoir, pumping station, and associated infrastructure) is situated at the eastern tip.
- 2.3 The topography generally falls from south to north, from 55 m AOD along Melksham Road to 45 m AOD near the northern boundary, directing surface flows towards the Chalfield Brook catchment. A copy of the topographical survey is included in **Appendix 1**.

Ground Conditions

- 2.4 The geology is underlain by the Kellaways Formation (sandstone, siltstone, and mudstone), with soils predominantly clay to clayey loam, described as medium loamy, locally light, silt-rich, or heavy clay-rich, influencing high runoff potential (Soil Index 0.47). The site is classified as "rocks with essentially no groundwater" but lies within a Zone I Inner Protection Zone due to a nearby borehole abstraction, requiring careful management to prevent groundwater pollution.
- 2.5 The Flood Risk Assessment confirms the site is within Flood Zone 1, with a low probability of flooding (<0.1% annual probability of river or sea flooding). The site is not within Flood alert or Warning Areas and has no identified risk of overland flooding, groundwater flooding, or sewer flooding. Reservoir flooding risk is negligible, with no large reservoirs within 2km.
- 2.6 No historic flood incidents are recorded for the site. The nearest watercourse, Chalfield Brook, is approximately 150m north and flows into the River Avon 1.6km to the east. The brook has a moderate ecological status, with issues related to land use impacts noted in the FRA.

Surface Water Drainage

- 2.7 No formal surface water drainage features are present on the site. A shallow depression was observed at the northern boundary, which may intermittently collect runoff, but no ditches or watercourses exist within the site boundary.
- 2.8 Existing water mains cross the site, including a 10" diameter strategic raw water main crossing west to east (anticipated to receive flows from a nearby borehole abstraction), a 340mm diameter strategic distribution main from the reservoir in a north-westerly direction, and a 12" diameter strategic distribution main from the reservoir in a north-westerly direction, and a 300mm diameter strategic distribution main at the boundary with

the reservoir and pumping station. These crossings will be accommodated in the drainage design with appropriate easements.

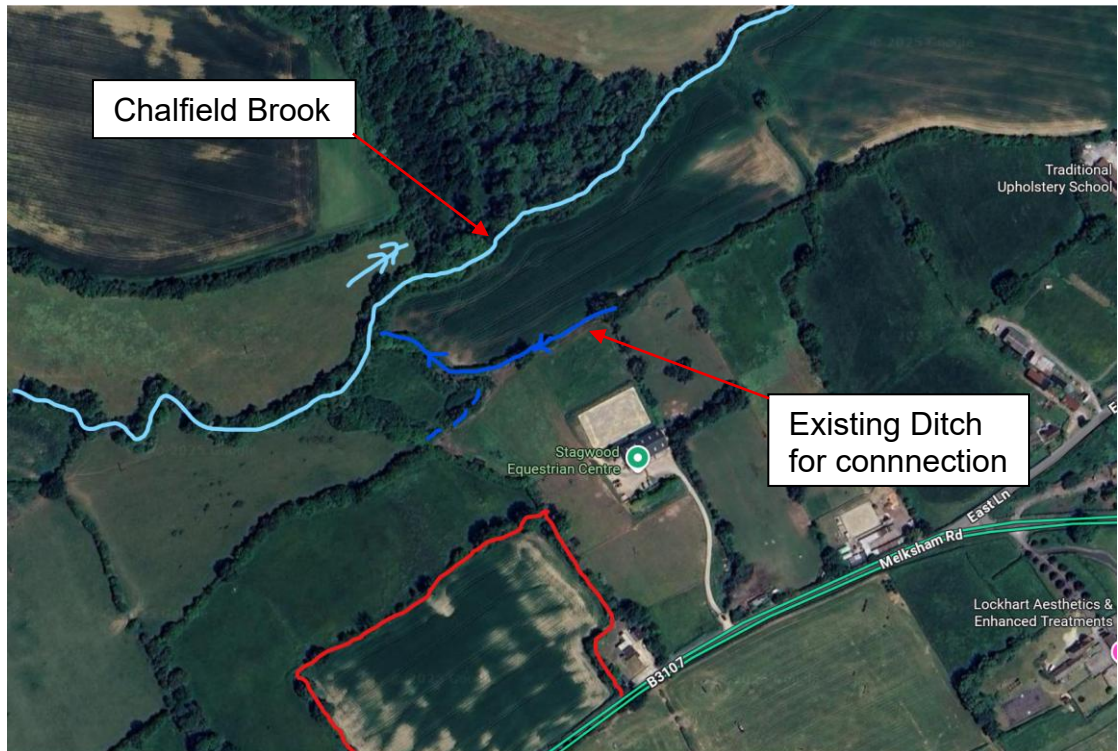
- 2.9 Wessex Water asset plans, included in **Appendix 2**, confirm no public surface water infrastructure exists on-site. Surface water is assumed to infiltrate into the ground under current conditions.
- 2.10 A highway drain has been noted to the south of the site in Great Parks road.

Foul Water Drainage

- 2.11 No existing foul sewers are present within the site boundary. The nearest foul sewer is in Melksham Road to the west. Wessex Water asset plans, included in **Appendix 2**, confirm these details.

3. Proposed Surface Water Drainage

- 3.1 The surface water drainage strategy has been developed from the outline strategy produced by Phoenix Design.
- 3.2 Per the outline strategy, the discharge of surface water will be to an offsite watercourse or ditch, which forms part of the catchment of the Chalfield Brook.
- 3.3 A site visit was undertaken on 31st July 2025 to establish the existing ditch networks in the vicinity of the site.
- 3.4 It was established that an existing ditch along the northern boundary of the Stagwood Equestrian Centre provided positive connection to the downstream Chalfield Brook, per below mark-up



- 3.5 Levels were assessed by Morgan C+S and it was confirmed that a positive connection could be achieved to this ditch.
- 3.6 The impermeable areas plan is included in **Appendix 3** for reference and confirms a total of 1.29 Ha of proposed impermeable areas are to be positively drained.
- 3.7 Impermeable areas are to be drained through a combination of conveyance swales and traditional methods and ultimately conveyed via gravity to the southern portion of the site.

Version: 1.0324

- 3.8 In line with the approved outline strategy, the site drainage will be designed to accommodate surface water flows up to, and including, the 1 in 100-year storm event plus 45% for climate change, without flooding.
- 3.9 Outflow from site will be restricted to the calculated greenfield runoff rate at 7.6l/s, with a betterment of 20% on QBar for the 1 in 1-year storm event to 6.0l/s.
- 3.10 The proposed hydro-brake achieves this reduction on the 1-year storm event.
- 3.11 The attenuation basin in the north of the site provides attenuation for flows up to the 1 in 100-year storm event plus 45% for climate change.
- 3.12 The proposed drainage strategy is included in **Appendix 4**.
- 3.12 Supporting Causeway Flow calculations are included in **Appendix 5**. These model up to the 1 in 100-year storm event with 45% climate change and 10% urban creep.

Exceedance Flows:

- 3.13 In the case of system failure, or an event beyond the 1 in 100 Year + 45% Climate Change Storm, exceedance flows for the site must be considered.
- 3.14 The majority of the current site falls to the north which supports pluvial flood mapping. Overland flow in extreme events will follow these gradients, with flows continuing north towards Chalfield Brook and southern flows dispersing across adjacent low-lying land.
- 3.15 Site proposals will utilise road corridors to manage and direct overland flows during exceedance events to the attenuation basin or conveyance swale to avoid people and property per the SuDS Manual guidance.
- 3.16 An exceedance flow plan has been included in **Appendix 6**.

4. Water Quality

- 4.1 The SuDS Manual (CIRIA C753) states that the design of surface water drainage should consider minimising contaminants in surface water runoff discharged from site. The level of treatment required depends on the proposed land use, according to the pollution hazard indices.
- 4.2 As per Table 26.2 of the SuDS Manual, the site will comprise of 55 properties and their associated residential car parking and low traffic roads.
- 4.3 Using Tables 26.2 and 26.3 of the SuDS Manual, the water quality mitigation has been assessed in the following table:

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Individual property driveways, residential car parks, low traffic roads (e.g. Cul de sacs, homezones and general access roads)	Low	0.5	0.4	0.4
SuDS Component & Mitigation Indices				
Detention Basin		0.5	0.5	0.6
Mitigation Indices $\geq$ Pollutants		Yes	Yes	Yes

- 4.4 As per the above table, the detention basin provides suitable mitigation for Water Quality on site.
- 4.5 In any case, further methods of good practise shall still be utilised across site.
- 4.6 It is recommended that any gullies have suitable silt traps/catchpits to reduce sediments entering the system.
- 4.7 It is advised that for maintenance, and the reduction of blockage risk to control devices, upstream and downstream chambers of SuDS and/or attenuation features have suitable catchpits to reduce sediments/particles and their associated risk of blockage.
- 4.8 It is recommended that all properties utilise water butts to intercept rainwater for re-use.

Maintenance Regime:

- 4.9 Morgan Civil and Structural have provided an Operations and Maintenance Manual to accompany this technical note to support planning, ref 138078-MCS-XX-RP-OM-01.

5. Proposed Foul Water Drainage

- 5.1 It is proposed to drain the foul sewerage for the site via pump package system with connections to the public foul network crossing the western extent of the site.
- 5.2 As per Sewerage Sector Guidance, proposed foul flows based on 4000l/dwelling/day equates to 2.5l/s for 55 dwellings.
- 5.3 The drainage strategy is included in **Appendix 4** and confirms the proposed connection point.

APPENDIX 1

Topographical Survey



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KEY.

B	Bollard.
BH	Borehole
BPav.	Block Paving.
BS	Bus Stop.
BT	British Telecom.
CB	Channel Block.
Conc.	Concrete.
CT	Cable TV.
EP	Electricity pole.
FH	Fire Hydrant
FP	Footpath.
FS	Footstyle.
GT	Gate.
G	Gas Valve.
G	Gully
IC	Inspection Chamber.
LB	Letter Box.
LP	Existing Street Light.
WH	Manhole.
OBM	Ordnance Bench Mark.
OHC	Overhead Cable.
PM	Parking Meter.
PO	Pole.
PY	Pylon.
RS	Road Sign.
RW	Retaining Wall.
Sap.	Sapling.
Slab.	Concrete Paving Slab.
SS	Electricity Sub-Station.
SV	Stop Valve.
Tar.	Tarmac.
TB	Telephone Box.
TL	Traffic Lights.
TP	Telegraph Pole.
WM	Water Meter.
WW	Water valve.
No. 1	Survey Station.

LEVEL INFORMATION.	
CL	Manhole Cover Level.
IL	Manhole Invert Level.
SL	Manhole Soffit Level.
BL	Stream Bed Level.
+123.45	Spot Level.
T.O.K.	Top of Kerb.
T.O.W.	Top of Wall.
T.O.B.	Top of Bank.
+123.45	Top of Wall level.

1. Some of these abbreviations may not appear on this drawing.
2. Contour interval:- 0.25m.
3. All levels in metres related on OSBM.
4. Ridge and eaves Hts indicative.

[illegible]

Project	MELKSHAM ROAD HOLT
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MIKE PRINGLE
DEVELOPMENT SERVICES



The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts.

B	Bollard.
BH	Borehole
BPav.	Block Paving.
BS	Bus Stop.
BT	British Telecom.
CB	Channel Block.
Conc.	Concrete.
CT	Cable TV.
EP	Electricity pole.
FH	Fire Hydrant
FP	Footpath.
FS	Footstyle.
GT	Gate.
GV	Gas Valve.
G	Gully
IC	Inspection Chamber.
LB	Letter Box.
LP	Existing Street Light.
MH	Manhole.
OBM	Ordinance Bench Mark.
OHC	Overhead Cable.
PM	Parking Meter.
PO	Pole.
PY	Pylon.
RS	Road Sign.
RW	Retaining Wall.
Sap.	Sapling.
Slab.	Concrete Paving Slab.
SS	Electricity Sub-Station.
SV	Stop Valve.
Tar.	Tarmac.
TB	Telephone Box.
TL	Traffic Lights.
TP	Telegraph Pole.
WM	Water Meter.
WV	Water valve.
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4. Ridge and eaves Hts indicative.

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Project

MELKSHAM ROAD
HOLT

**MIKE PRINGLE
DEVELOPMENT SERVICES**

31 LANES END
BRISTOLTON
BRISTOL
BS4 5DP

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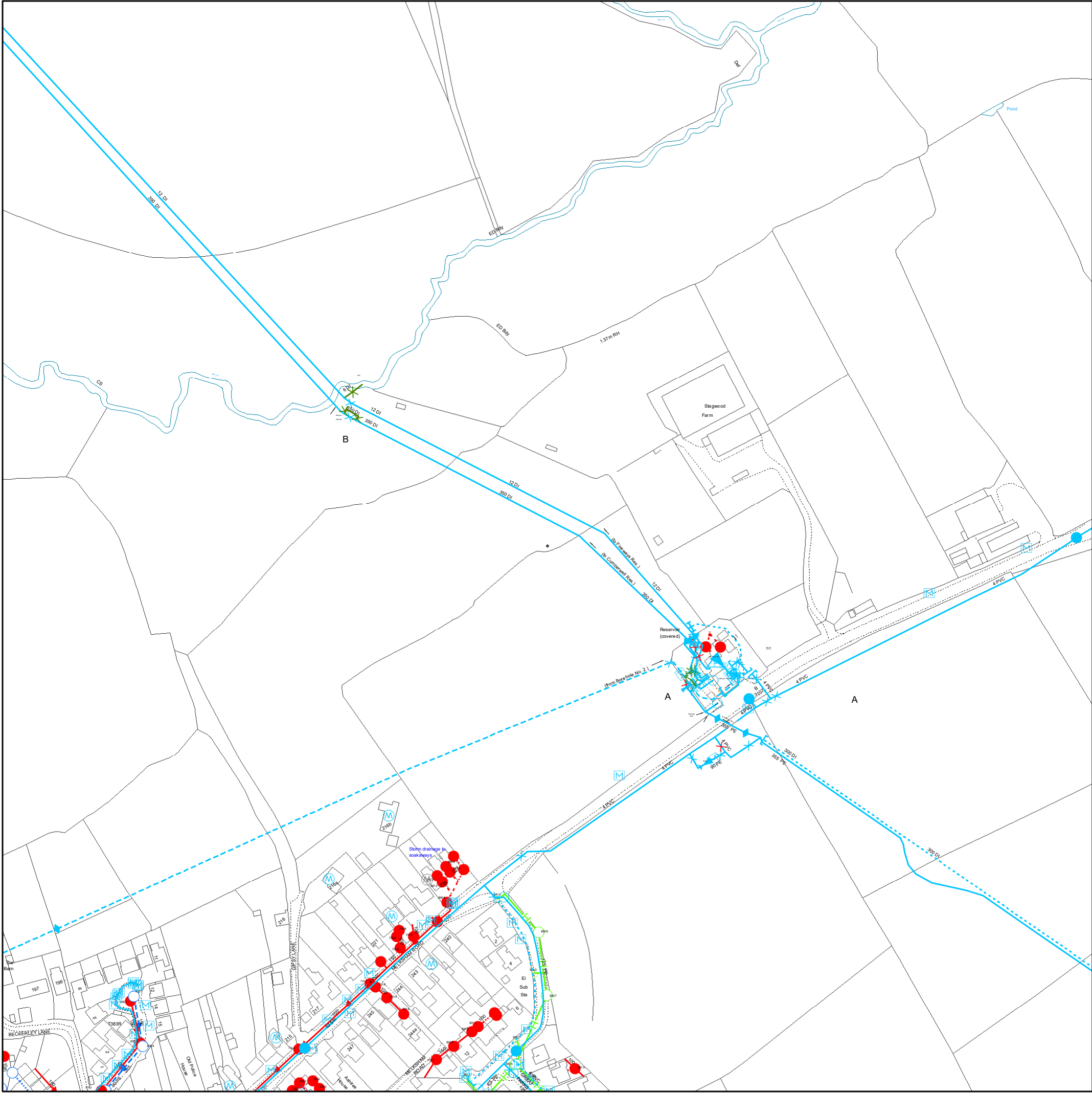


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APPENDIX 2

Wessex Water Public Asset Records

Wessex Water Web Map



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WATER MAINS		SEWERS		PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES		NON-WESSEX / UNKNOWN		
	Distribution Main		Foul					Rising Mains		Private Rising Mains	
	Washout Main		Surface					Effluent Disposal		Culverted Watercourse	
	Raw Water Main		Combined					Overflow		Highway Drain	
	Abandoned Main		Abandoned					Syphon		Use Unknown	
	Private Main	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow) styles of line are shown on the key in sample/typical colours.									
SITES		STRUCTURES			Manhole - Foul		Pumping Station - Surface	OTHER STRUCTURES			Chamber
	Source		Manhole - Surface		Pumping Stn - Foul/Combined		Attenuation Tank		Tunnel		Interceptor
	Reservoir		Manhole - Combined		Gully		Storage Tank				
	Pump		Outfall		Vent Column		Catchpit				
	Treatment Works		Inlet		Rodding Eye		Flushing Chamber				
			Lamphole		Soakaway		Non Return Valve				
			Bifurcation - Foul		Washout		Air Valve				
			Bifurcation - Surface		Hatch Box						
			Bifurcation - Combined								
			Combined Sewage Overflow								
Information in this plan is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. Building over or near Wessex Water's apparatus is not normally permitted.											
			Valve - Open								
			Valve - Closed								
			Fire Hydrant								
			Pressure Reducing Valve								
			Meter								

Wessex Water
YTL GROUP

Date: 03/12/2021, 09:31:16

Scale: 1:2,500

Centre: 386,870, 162,646

APPENDIX 3

Impermeable Areas Plan



DO NOT SCALE this drawing. Use figured dimensions only.
The Contractor must check & verify all dimensions on site.
Any discrepancies must be reported immediately to the Engineer for clarification before proceeding.
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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
Refer to the relevant Construction (Design and Management) documentation where applicable.
It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

- Key:**
- Impermeable area - Road (0.42 ha)
 - Impermeable area - Private Drive (0.35 ha)
 - Impermeable area - Housing (0.39 ha)
 - Impermeable area - Basin (0.13 ha)

Total Impermeable area - 1.29 ha



P02	24/10/25	Updated to include latest layout	AM
P01	16/10/25	First issue	AM
Rev	Date	Description	By
Client			

Redcliffe Homes Ltd

Project

Melksham Road, Holt

Title

Impermeable Area Plan

Drawing Status

PLANNING

Drawn	Checked	Approved	Date	Scale @ A1
AM	NT	NT	AUG 2025	1:500

Project No.	Drawing No.	Revision
138078	138078-MCS-XX-DR-C-5200	P02



APPENDIX 4

Proposed Drainage Strategy

Proposed Offline Attenuation Basin
Top Basin min level : 46.900m AOD
Invert Level : 45.100m AOD
Freeboard Level : 46.600m AOD
Side Slopes 1:3
Approx Volume 1224m³ at max 1.5m water depth.

Proposed Hydrobrake control chamber restricting flows to 6l/s.
Invert Level : 45.044m AOD
Design Head : 0.95m
Unit reference: CTL-SHE-0116-6000-0950-6000.
Max discharge at 1.5m water depth = 7.4l/s (QBar)

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- Notes:
- Scale for planning purposes only.
 - All adoptable drainage shall be in accordance with Sewer Society Guidance Appendix C: The Design and Construction Guidance and drainage undertakers requirements.
 - All private drainage shall be in accordance with BS5531 and relevant sections of approved Document H of the building regulations.
 - The Contractor is to check the level of existing sewers being used as outfalls or crossing proposed drainage runs prior to laying any pipes. Any discrepancies are to be reported to the Engineer.
 - All connections for private drainage shall be 100mm unless noted otherwise. All connections where later shall be plugged, protected as necessary and marked with a stake for future use.
 - For private drains where cover to pipes is less than 100mm in vehicular areas or 400mm in other areas protection in the form of Type 'C' bedding shall be used.
 - Where pipes pass through screen walls, footings or retaining walls limits are to be provided over. Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the level of the pipe.
 - All gullies and rainwater downpipes connected directly to drains are to be notifiable.
 - All drainage shall be laid upstream and each run between manholes shall be laid complete prior to backfilling. Where this is not practical this shall be done in other means of confirming the line and level of services shall be carried out prior to works commencing.
 10. Lateral drainage to be laid at a minimum gradient of 1 in 40 in accordance with BS5531.
 11. All gullies to be trapped.

- Key:
- Site Boundary
 - Major Contour (0.50m)
 - Minor Contour (0.10m)
 - Plot Finished Floor Level
 - Garage Finished Floor Level
 - Centreline
 - Existing Wessex Water Foul Water Sewer
 - Existing Wessex Water - Water Main
 - Foul Water Sewer (S104 Adoptable)
 - Surface Water Manhole (S104 Adoptable)
 - Surface Water Sewer (S104 Adoptable)
 - Hydrobrake (S104 Adoptable)
 - Headwall
 - Highway Gully and Connection
 - Concrete Protection (Pipe)
 - Easement

Redcliffe Homes Ltd

Project
Melksham Road, Holt

Title
Drainage Layout
Sheet 1 of 2

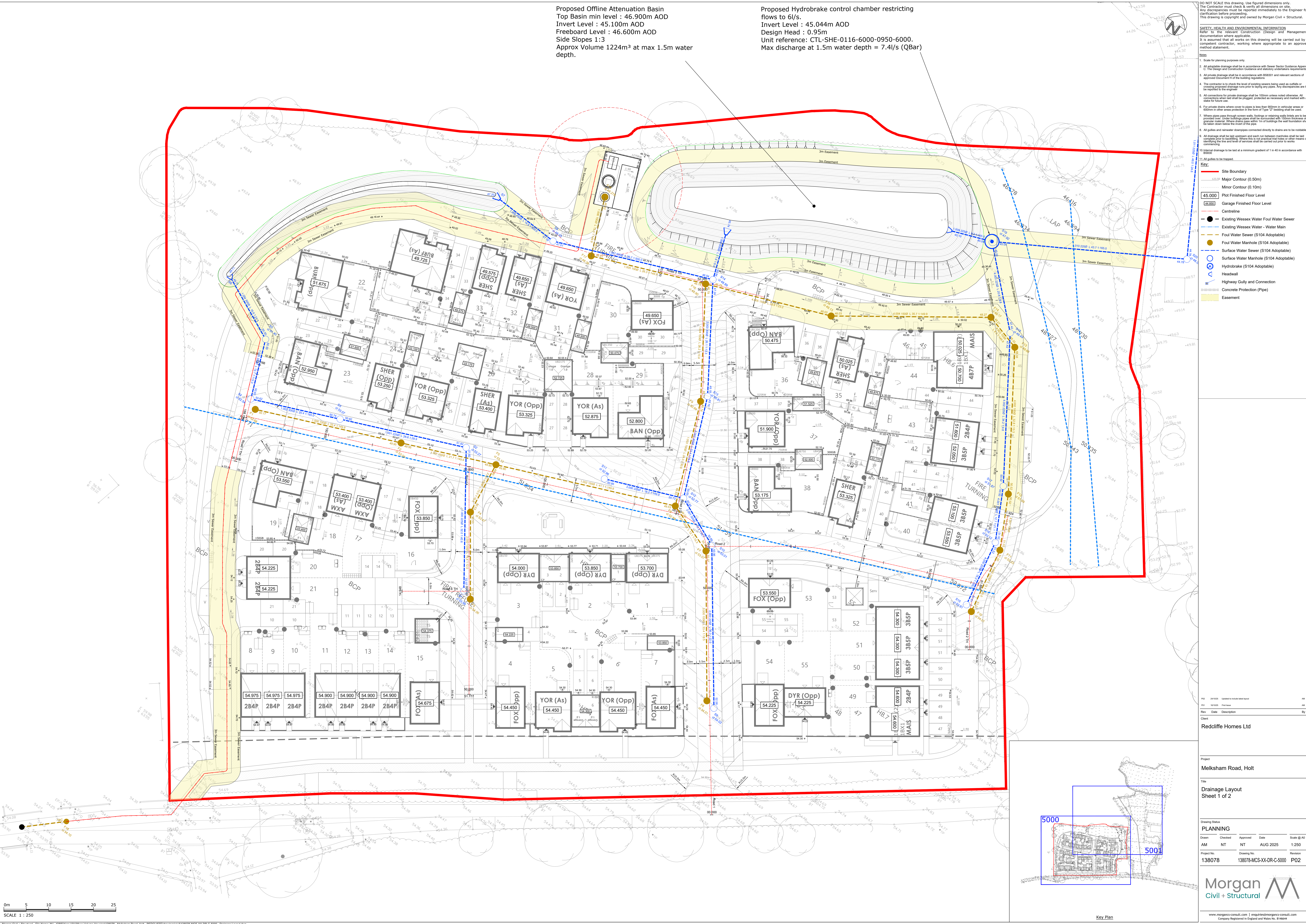
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Project No. 138078 Drawing No. 138078-MCS-XX-DR-C-5000 Revision P02

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 - All private drainage shall be in accordance with BS5501 and relevant sections of approved Document H of the building regulations.
 - The Contractor is to check the level of existing sewers being used as outfalls or crossing proposed drainage runs prior to laying any pipes. Any discrepancies are to be reported to the Engineer.
 - All connections for private drainage shall be 100mm unless noted otherwise. All connections where laid shall be plugged, protected as necessary and marked with a stake for future use.
 - For private drains where cover to pipes is less than 100mm in vehicular areas or 400mm in other areas protection in the form of Type 'C' bedding shall be used.
 - Where pipes pass through screen walls, footings or retaining walls limits are to be provided (note: Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the invert of the pipe).
 - All gullies and rainwater downpipes connected directly to drains are to be rodable.
 - All drainage shall be laid upstream and each run between manholes shall be laid complete prior to backfilling. Where this is not practical the holes or other means of commencing.
 - 10 Internal drainage to be laid at a minimum gradient of 1 in 40 in accordance with BS5501.
 - 11 All gullies to be trapped.

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- Site Boundary
 - Major Contour (0.50m)
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 - Easement

Redcliffe Homes Ltd

Melksham Road, Holt

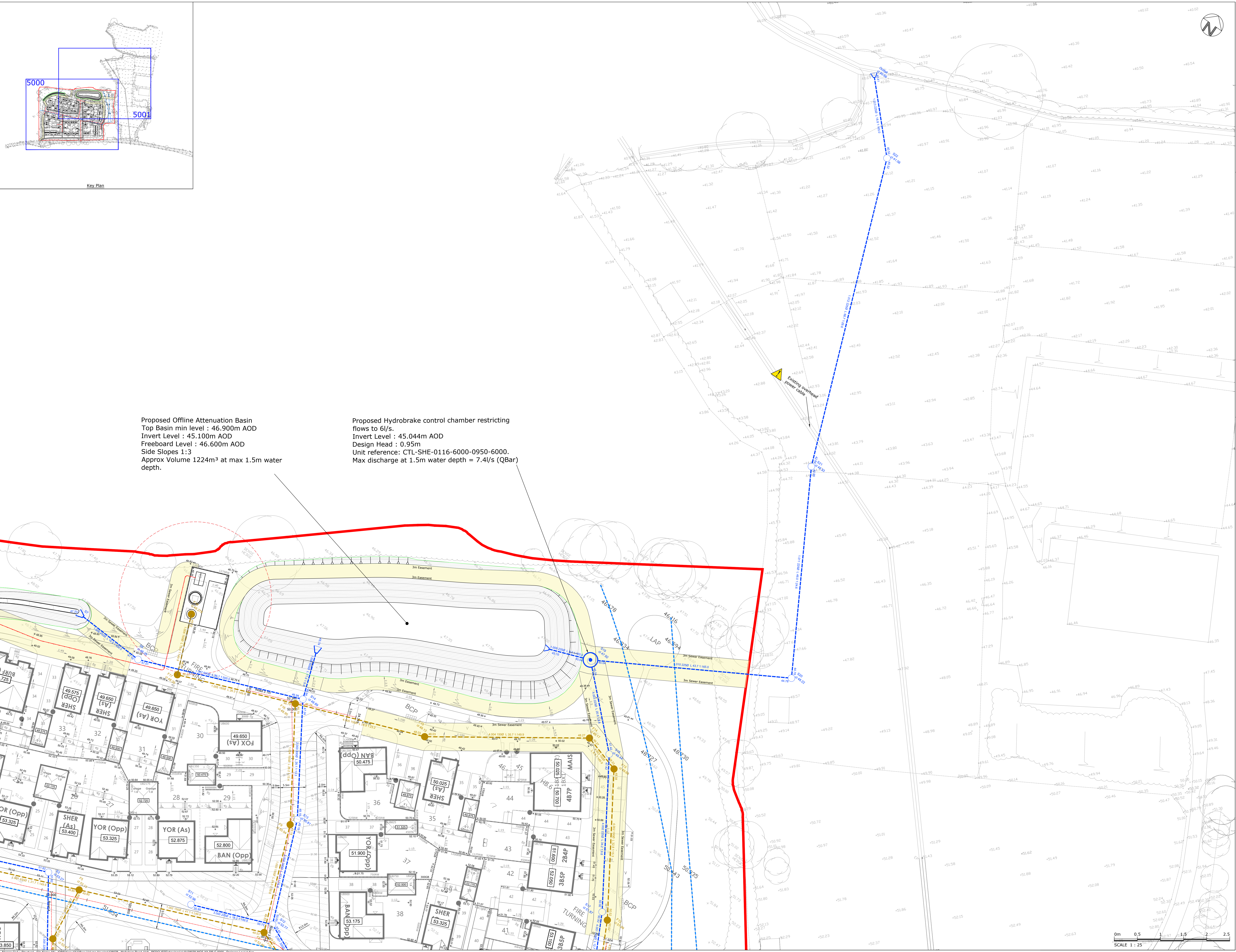
Drainage Layout
Sheet 2 of 2

Drawn	Checked	Approved	Date	Scale @ A0
AM	NT	NT	AUG 2025	1:250

Project No: 138078 Drawing No: 138078-MCS-XX-DR-C-5001 Revision: P02

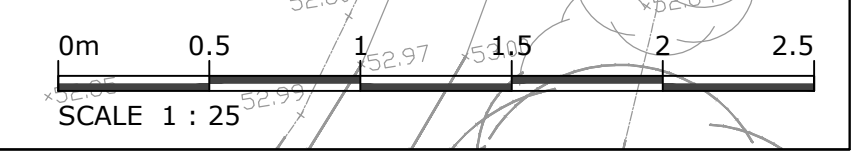
Morgan Civil + Structural

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Company Registered in England and Wales No. 8194944



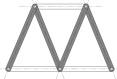
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Freeboard Level : 46.600m AOD
Side Slopes 1:3
Approx Volume 1224m³ at max 1.5m water depth.

Proposed Hydrobrake control chamber restricting flows to 6l/s.
Invert Level : 45.044m AOD
Design Head : 0.95m
Unit reference: CTL-SHE-0116-6000-0950-6000.
Max discharge at 1.5m water depth = 7.4l/s (QBar)



APPENDIX 5

Causeway Flow Calculations

**Design Settings**

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

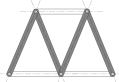
Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.107	5.00	53.994	1200	386850.149	162503.943	1.425
S2	0.038	5.00	53.270	1200	386832.236	162530.430	1.452
S3	0.064	5.00	53.069	1200	386805.551	162519.504	2.324
S4	0.141	5.00	52.540	1200	386786.652	162511.766	1.919
S5	0.042	5.00	52.000	1200	386781.723	162524.552	1.500
S6			50.554	1200	386766.706	162531.713	0.844
S7			48.064	1350	386804.828	162580.168	0.861
S8	0.117	5.00	49.109	1500	386821.700	162579.279	2.098
S15	0.065	5.00	53.910	1200	386943.760	162565.761	2.301
S16	0.000	5.00	53.122	1200	386941.063	162580.818	1.606
S17	0.039	5.00	52.340	1200	386935.317	162592.135	1.425
S9	0.028	5.00	54.016	1200	386910.844	162514.536	1.437
S10	0.150	5.00	53.013	1200	386889.619	162544.008	2.125
S11	0.029	5.00	52.957	1200	386861.513	162542.417	2.105
S12	0.057	5.00	52.773	1200	386878.443	162548.994	2.117
S13	0.127	5.00	50.807	1200	386869.791	162570.692	1.614
S14	0.086	5.00	48.889	1500	386855.847	162592.702	1.951
BASIN	0.130		46.900	1500	386851.932	162603.908	1.738
S19			46.900	1500	386901.953	162635.378	1.856
S20			48.215	1200	386939.858	162657.093	3.436
S21			44.329	1200	386917.095	162697.119	1.425
S18	0.072	5.00	49.438	1200	386916.980	162620.998	2.018
S22			41.358	1200	386892.223	162761.157	0.834
Outfall			40.710		386879.192	162774.725	0.300

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S1	S2	31.976	0.600	52.569	51.818	0.751	42.6	225	5.27	50.0
1.001	S2	S3	28.835	0.600	51.818	50.820	0.998	28.9	225	5.46	50.0
1.002	S3	S4	20.422	0.600	50.745	50.621	0.124	164.7	300	5.74	50.0
1.003	S4	S5	13.703	0.600	50.621	50.500	0.121	113.2	300	5.90	50.0

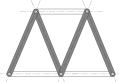
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	2.010	79.9	14.5	1.200	1.227	0.107	0.0
1.001	2.443	97.1	19.7	1.227	2.024	0.145	0.0
1.002	1.222	86.4	28.4	2.024	1.619	0.209	0.0
1.003	1.476	104.4	47.5	1.619	1.200	0.350	0.0



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.004	S5	S6	16.637	0.600	50.500	49.710	0.790	21.1	300	5.98	50.0
1.005	S6	S7	67.909	0.030	49.710	47.203	2.507	27.1	1000	6.33	50.0
1.006	S7	S8	16.895	0.030	47.203	47.161	0.042	400.0	450	7.06	50.0
1.007	S8	S14	36.691	0.030	47.011	46.938	0.073	500.0	600	8.51	50.0
4.000	S15	S16	15.297	0.600	51.609	51.516	0.093	164.5	225	5.25	50.0
4.001	S16	S17	12.692	0.600	51.516	50.915	0.601	21.1	225	5.32	50.0
4.002	S17	S18	34.195	0.600	50.915	47.420	3.495	9.8	225	5.46	50.0
2.000	S9	S10	36.319	0.600	52.579	50.963	1.616	22.5	225	5.22	50.0
2.001	S10	S12	12.238	0.600	50.888	50.656	0.232	52.7	300	5.31	50.0
3.000	S11	S12	18.163	0.600	50.852	50.731	0.121	150.1	225	5.28	50.0
2.002	S12	S13	23.359	0.600	50.656	49.268	1.388	16.8	300	5.41	50.0
2.003	S13	S14	26.055	0.600	49.193	47.238	1.955	13.3	300	5.51	50.0
1.008	S14	BASIN	12.970	0.030	46.938	45.736	1.202	10.8	600	8.58	50.0
1.011	S20	S21	46.046	0.600	44.779	42.904	1.875	24.6	225	6.55	50.0
1.010	S19	S20	43.684	0.600	45.044	44.779	0.265	165.0	225	6.26	50.0
1.012	S21	S22	68.698	0.600	42.904	40.524	2.380	28.9	225	7.01	50.0
1.013	S22	Outfall	18.812	0.600	40.524	40.410	0.114	165.0	225	7.32	50.0
4.003	S18	S19	20.799	0.600	47.420	45.044	2.376	8.8	225	5.54	50.0

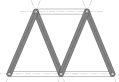
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.004	3.441	243.2	53.2	1.200	0.544	0.392	0.0
1.005	3.183	5347.7	53.2	0.244	0.261	0.392	0.0
1.006	0.388	61.8	53.2	0.411	1.498	0.392	0.0
1.007	0.421	119.0	69.0	1.498	1.351	0.509	0.0
4.000	1.016	40.4	8.8	2.076	1.381	0.065	0.0
4.001	2.860	113.7	8.8	1.381	1.200	0.065	0.0
4.002	4.207	167.3	14.1	1.200	1.793	0.104	0.0
2.000	2.771	110.2	3.8	1.212	1.825	0.028	0.0
2.001	2.169	153.3	24.1	1.825	1.817	0.178	0.0
3.000	1.065	42.3	3.9	1.880	1.817	0.029	0.0
2.002	3.850	272.2	35.7	1.817	1.239	0.264	0.0
2.003	4.328	306.0	52.9	1.314	1.351	0.391	0.0
1.008	2.865	810.0	133.6	1.351	0.564	0.986	0.0
1.011	2.651	105.4	23.9	3.211	1.200	0.176	0.0
1.010	1.015	40.4	23.9	1.631	3.211	0.176	0.0
1.012	2.444	97.2	23.9	1.200	0.609	0.176	0.0
1.013	1.015	40.4	23.9	0.609	0.075	0.176	0.0
4.003	4.449	176.9	23.9	1.793	1.631	0.176	0.0



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	31.976	42.6	225	1	53.994	52.569	1.200	53.270	51.818	1.227
1.001	28.835	28.9	225	1	53.270	51.818	1.227	53.069	50.820	2.024
1.002	20.422	164.7	300	1	53.069	50.745	2.024	52.540	50.621	1.619
1.003	13.703	113.2	300	1	52.540	50.621	1.619	52.000	50.500	1.200
1.004	16.637	21.1	300	1	52.000	50.500	1.200	50.554	49.710	0.544
1.005	67.909	27.1	1000	Swale	50.554	49.710	0.244	48.064	47.203	0.261
1.006	16.895	400.0	450	1	48.064	47.203	0.411	49.109	47.161	1.498
1.007	36.691	500.0	600	1	49.109	47.011	1.498	48.889	46.938	1.351
4.000	15.297	164.5	225	1	53.910	51.609	2.076	53.122	51.516	1.381
4.001	12.692	21.1	225	1	53.122	51.516	1.381	52.340	50.915	1.200
4.002	34.195	9.8	225	1	52.340	50.915	1.200	49.438	47.420	1.793
2.000	36.319	22.5	225	1	54.016	52.579	1.212	53.013	50.963	1.825
2.001	12.238	52.7	300	1	53.013	50.888	1.825	52.773	50.656	1.817
3.000	18.163	150.1	225	1	52.957	50.852	1.880	52.773	50.731	1.817
2.002	23.359	16.8	300	1	52.773	50.656	1.817	50.807	49.268	1.239
2.003	26.055	13.3	300	1	50.807	49.193	1.314	48.889	47.238	1.351
1.008	12.970	10.8	600	1	48.889	46.938	1.351	46.900	45.736	0.564
1.011	46.046	24.6	225	1	48.215	44.779	3.211	44.329	42.904	1.200
1.010	43.684	165.0	225	1	46.900	45.044	1.631	48.215	44.779	3.211
1.012	68.698	28.9	225	1	44.329	42.904	1.200	41.358	40.524	0.609
1.013	18.812	165.0	225	1	41.358	40.524	0.609	40.710	40.410	0.075
4.003	20.799	8.8	225	1	49.438	47.420	1.793	46.900	45.044	1.631

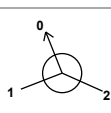
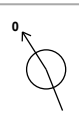
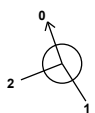
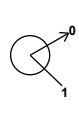
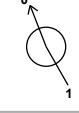
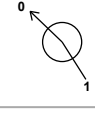
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1200	Manhole	1	S2	1200	Manhole	1
1.001	S2	1200	Manhole	1	S3	1200	Manhole	1
1.002	S3	1200	Manhole	1	S4	1200	Manhole	1
1.003	S4	1200	Manhole	1	S5	1200	Manhole	1
1.004	S5	1200	Manhole	1	S6	1200	Manhole	1
1.005	S6	1200	Manhole	1	S7	1350	Manhole	1
1.006	S7	1350	Manhole	1	S8	1500	Manhole	1
1.007	S8	1500	Manhole	1	S14	1500	Manhole	1
4.000	S15	1200	Manhole	1	S16	1200	Manhole	1
4.001	S16	1200	Manhole	1	S17	1200	Manhole	1
4.002	S17	1200	Manhole	1	S18	1200	Manhole	1
2.000	S9	1200	Manhole	1	S10	1200	Manhole	1
2.001	S10	1200	Manhole	1	S12	1200	Manhole	1
3.000	S11	1200	Manhole	1	S12	1200	Manhole	1
2.002	S12	1200	Manhole	1	S13	1200	Manhole	1
2.003	S13	1200	Manhole	1	S14	1500	Manhole	1
1.008	S14	1500	Manhole	1	BASIN	1500	Manhole	1
1.011	S20	1200	Manhole	1	S21	1200	Manhole	1
1.010	S19	1500	Manhole	1	S20	1200	Manhole	1
1.012	S21	1200	Manhole	1	S22	1200	Manhole	1
1.013	S22	1200	Manhole	1	Outfall		Manhole	1
4.003	S18	1200	Manhole	1	S19	1500	Manhole	1



Manhole Schedule

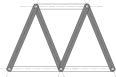
Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1	386850.149	162503.943	53.994	1.425	1200		0	1.000	52.569	225
S2	386832.236	162530.430	53.270	1.452	1200		1	1.000	51.818	225
S3	386805.551	162519.504	53.069	2.324	1200		0	1.001	51.818	225
S4	386786.652	162511.766	52.540	1.919	1200		1	1.001	50.820	225
S5	386781.723	162524.552	52.000	1.500	1200		0	1.002	50.745	300
S6	386766.706	162531.713	50.554	0.844	1200		1	1.002	50.621	300
S7	386804.828	162580.168	48.064	0.861	1350		0	1.003	50.621	300
S8	386821.700	162579.279	49.109	2.098	1500		1	1.003	50.500	300
S15	386943.760	162565.761	53.910	2.301	1200		0	1.004	50.500	300
S16	386941.063	162580.818	53.122	1.606	1200		1	1.004	49.710	300
S17	386935.317	162592.135	52.340	1.425	1200		0	1.005	49.710	1000
S9	386910.844	162514.536	54.016	1.437	1200		1	1.005	47.203	1000
S10	386889.619	162544.008	53.013	2.125	1200		0	1.006	47.203	450
							1	1.006	47.161	450
							0	1.007	47.011	600
							0	4.000	51.609	225
							1	4.000	51.516	225
							0	4.001	51.516	225
							1	4.001	50.915	225
							0	4.002	50.915	225
							0	2.000	52.579	225
							1	2.000	50.963	225
							0	2.001	50.888	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S11	386861.513	162542.417	52.957	2.105	1200		0	3.000	50.852	225
S12	386878.443	162548.994	52.773	2.117	1200		1 2	3.000 2.001	50.731 50.656	225 300
S13	386869.791	162570.692	50.807	1.614	1200		1	2.002	49.268	300
S14	386855.847	162592.702	48.889	1.951	1500		0 1 2	2.003 1.007	49.193 47.238 46.938	300 600 600
BASIN	386851.932	162603.908	46.900	1.738	1500		1	1.008	45.736	600
S19	386901.953	162635.378	46.900	1.856	1500		1 0	4.003 1.010	45.044 45.044	225 225
S20	386939.858	162657.093	48.215	3.436	1200		1 0	1.010 1.011	44.779 44.779	225 225
S21	386917.095	162697.119	44.329	1.425	1200		1 0	1.011 1.012	42.904 42.904	225 225
S18	386916.980	162620.998	49.438	2.018	1200		1 0	4.002 4.003	47.420 47.420	225 225
S22	386892.223	162761.157	41.358	0.834	1200		1 0	1.012 1.013	40.524 40.524	225 225
Outfall	386879.192	162774.725	40.710	0.300			1	1.013	40.410	225

SuDS Carriers

Link	US Node	DS Node	Link Type	Base Inf Coef (m/hr)	Sides Inf Coef (m/hr)	Safety Factor	Time to Half Empty (mins)
1.005	S6	S7	Swale	0.00000	0.00000	2.0	1



Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	1 year (l/s)	4.1
Rainfall Events	Singular	Drain Down Time (mins)	240	30 year (l/s)	9.5
Summer CV	0.750	Additional Storage (m³/ha)	20.0	100 year (l/s)	12.0
Winter CV	0.840	Starting Level (m)		Check Discharge Volume	x
Analysis Speed	Normal	Check Discharge Rate(s)	✓		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440 | 2880

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	45	10	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	FEH	Growth Factor 100 year	2.48
Positively Drained Area (ha)	3.000	Betterment (%)	20
SAAR (mm)	827	QMed	5.5
Host	1	QBar	6.1
BFIHost	0.734	Q 1 year (l/s)	4.1
Region	1	Q 30 year (l/s)	9.5
QBar/QMed conversion factor	1.111	Q 100 year (l/s)	12.0
Growth Factor 1 year	0.85		

Node S19 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	1.010	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0116-6000-0950-6000
Invert Level (m)	45.044	Min Outlet Diameter (m)	0.150
Design Depth (m)	0.950	Min Node Diameter (mm)	1200
Design Flow (l/s)	6.0		

Node S19 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	59.096
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	45.044	Main Channel Slope (1:X)	500.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.030

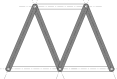
Inlets BASIN

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	484.0	484.0	1.800	1296.2	1317.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	52.617	0.048	8.1	0.1260	0.0000	OK
15 minute winter	S2	11	51.868	0.050	10.9	0.0831	0.0000	OK
15 minute winter	S3	11	50.830	0.085	15.4	0.1431	0.0000	OK
15 minute winter	S4	11	50.722	0.101	25.8	0.2619	0.0000	OK
15 minute winter	S5	11	50.576	0.076	28.8	0.1287	0.0000	OK
15 minute winter	S6	11	49.748	0.038	29.0	0.0429	0.0000	OK
30 minute winter	S7	23	47.358	0.155	22.2	0.2213	0.0000	OK
30 minute winter	S8	24	47.186	0.175	17.6	0.5043	0.0000	OK
15 minute winter	S15	10	51.663	0.054	4.9	0.0911	0.0000	OK
15 minute winter	S16	10	51.547	0.031	4.8	0.0354	0.0000	OK
15 minute winter	S17	10	50.948	0.033	7.7	0.0549	0.0000	OK
15 minute winter	S9	11	52.600	0.021	2.1	0.0324	0.0000	OK
15 minute winter	S10	10	50.948	0.060	13.4	0.1525	0.0000	OK
15 minute winter	S11	11	50.886	0.034	2.2	0.0481	0.0000	OK
15 minute winter	S12	10	50.710	0.054	19.7	0.0903	0.0000	OK
15 minute winter	S13	10	49.255	0.062	29.0	0.1673	0.0000	OK
15 minute winter	S14	11	47.034	0.096	45.1	0.2555	0.0000	OK
480 minute winter	BASIN	360	45.339	0.177	16.8	0.5777	0.0000	OK
480 minute winter	S19	360	45.339	0.295	12.7	0.5214	0.0000	SURCHARGED
480 minute winter	S20	360	44.815	0.036	5.9	0.0409	0.0000	OK
480 minute winter	S21	360	42.942	0.038	5.9	0.0426	0.0000	OK
15 minute winter	S18	10	47.467	0.047	13.1	0.0870	0.0000	OK
480 minute winter	S22	360	40.582	0.058	5.9	0.0655	0.0000	OK
480 minute winter	Outfall	360	40.468	0.058	5.9	0.0000	0.0000	OK

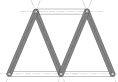
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	1.000	S2	8.0	1.255	0.100	0.2029	
15 minute winter	S2	1.001	S3	10.7	1.624	0.110	0.1902	
15 minute winter	S3	1.002	S4	15.5	0.836	0.179	0.3791	
15 minute winter	S4	1.003	S5	25.8	1.493	0.248	0.2381	
15 minute winter	S5	1.004	S6	29.0	3.138	0.119	0.1595	
15 minute winter	S6	1.005	S7	28.4	0.492	0.005	8.4216	
30 minute winter	S7	1.006	S8	14.0	0.428	0.227	0.5678	
30 minute winter	S8	1.007	S14	16.9	0.385	0.142	1.6750	
15 minute winter	S15	4.000	S16	4.8	0.924	0.119	0.0810	
15 minute winter	S16	4.001	S17	4.8	1.382	0.042	0.0437	
15 minute winter	S17	4.002	S18	7.6	1.748	0.046	0.1638	
15 minute winter	S9	2.000	S10	2.0	1.080	0.019	0.0686	
15 minute winter	S10	2.001	S12	13.3	1.425	0.086	0.1140	
15 minute winter	S11	3.000	S12	2.1	0.565	0.051	0.0689	
15 minute winter	S12	2.002	S13	19.4	2.260	0.071	0.2009	
15 minute winter	S13	2.003	S14	28.7	2.759	0.094	0.2716	
15 minute winter	S14	1.008	BASIN	44.9	1.539	0.055	0.3782	
480 minute winter	BASIN	Flow through Pond	S19	10.0	0.040	0.000	127.6771	
480 minute winter	S19	1.010	S20	5.9	0.939	0.147	0.2816	
480 minute winter	S20	1.011	S21	5.9	1.404	0.056	0.1952	
480 minute winter	S21	1.012	S22	5.9	0.968	0.061	0.4271	
15 minute winter	S18	4.003	S19	13.2	3.990	0.075	0.2540	
480 minute winter	S22	1.013	Outfall	5.9	0.737	0.147	0.1519	181.3



Results for 30 year Critical Storm Duration. Lowest mass balance: 99.57%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	52.676	0.107	37.1	0.2808	0.0000	OK
15 minute winter	S2	10	51.931	0.113	49.9	0.1868	0.0000	OK
15 minute winter	S3	10	50.961	0.216	71.5	0.3630	0.0000	OK
15 minute winter	S4	10	50.890	0.269	118.8	0.6988	0.0000	OK
15 minute winter	S5	10	50.669	0.169	134.1	0.2852	0.0000	OK
15 minute winter	S6	11	49.802	0.092	131.7	0.1038	0.0000	OK
15 minute winter	S7	14	47.575	0.372	132.4	0.5322	0.0000	OK
15 minute winter	S8	13	47.425	0.414	113.9	1.1930	0.0000	OK
15 minute winter	S15	10	51.727	0.118	22.6	0.2005	0.0000	OK
15 minute winter	S16	10	51.583	0.067	22.3	0.0759	0.0000	OK
15 minute winter	S17	10	50.985	0.070	35.7	0.1175	0.0000	OK
15 minute winter	S9	10	52.624	0.045	9.7	0.0681	0.0000	OK
15 minute winter	S10	10	51.019	0.131	61.5	0.3331	0.0000	OK
15 minute winter	S11	10	50.926	0.074	10.1	0.1037	0.0000	OK
15 minute winter	S12	10	50.774	0.118	90.6	0.1971	0.0000	OK
15 minute winter	S13	10	49.331	0.138	134.0	0.3721	0.0000	OK
15 minute winter	S14	11	47.169	0.231	253.7	0.6113	0.0000	OK
720 minute winter	BASIN	705	45.856	0.694	34.6	2.2647	0.0000	OK
720 minute winter	S19	705	45.856	0.812	23.2	1.4349	0.0000	SURCHARGED
15 minute summer	S20	68	44.815	0.036	6.0	0.0411	0.0000	OK
15 minute summer	S21	69	42.942	0.038	6.0	0.0427	0.0000	OK
15 minute winter	S18	10	47.510	0.090	60.4	0.1658	0.0000	OK
15 minute summer	S22	71	40.582	0.058	6.0	0.0658	0.0000	OK
15 minute summer	Outfall	72	40.468	0.058	6.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	1.000	S2	36.7	1.913	0.460	0.6144	
15 minute winter	S2	1.001	S3	49.3	2.255	0.508	0.6641	
15 minute winter	S3	1.002	S4	70.6	1.166	0.818	1.2326	
15 minute winter	S4	1.003	S5	119.5	2.185	1.146	0.7354	
15 minute winter	S5	1.004	S6	131.7	4.552	0.541	0.4858	
15 minute winter	S6	1.005	S7	132.4	0.646	0.025	29.9349	
15 minute winter	S7	1.006	S8	90.9	0.761	1.472	1.9945	
15 minute winter	S8	1.007	S14	112.4	0.759	0.944	5.4976	
15 minute winter	S15	4.000	S16	22.3	1.449	0.552	0.2374	
15 minute winter	S16	4.001	S17	22.2	2.171	0.195	0.1297	
15 minute winter	S17	4.002	S18	35.4	2.807	0.212	0.4326	
15 minute winter	S9	2.000	S10	9.6	1.594	0.087	0.2416	
15 minute winter	S10	2.001	S12	61.0	2.206	0.398	0.3385	
15 minute winter	S11	3.000	S12	9.9	0.879	0.233	0.2044	
15 minute winter	S12	2.002	S13	90.0	3.503	0.330	0.5999	
15 minute winter	S13	2.003	S14	133.1	4.236	0.435	0.8189	
15 minute winter	S14	1.008	BASIN	251.9	2.528	0.311	1.2924	
720 minute winter	BASIN	Flow through Pond	S19	17.8	0.041	0.001	493.0364	
720 minute winter	S19	1.010	S20	6.0	0.941	0.148	0.2829	
15 minute summer	S20	1.011	S21	6.0	1.443	0.057	0.1961	
15 minute summer	S21	1.012	S22	6.0	1.309	0.062	0.4291	
15 minute winter	S18	4.003	S19	60.0	4.785	0.339	0.5567	
15 minute summer	S22	1.013	Outfall	6.0	0.738	0.148	0.1526	86.3



Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	12	53.082	0.513	76.2	1.4303	0.0000	SURCHARGED
15 minute winter	S2	12	52.555	0.737	94.7	1.2582	0.0000	SURCHARGED
15 minute winter	S3	11	51.689	0.944	130.0	1.6405	0.0000	SURCHARGED
15 minute winter	S4	11	51.410	0.789	225.9	2.1703	0.0000	SURCHARGED
15 minute winter	S5	11	50.859	0.359	250.3	0.6264	0.0000	SURCHARGED
15 minute summer	S6	11	49.839	0.129	246.4	0.1460	0.0000	OK
15 minute winter	S7	15	47.835	0.632	243.9	0.9049	0.0000	FLOOD RISK
15 minute winter	S8	13	47.565	0.554	197.9	1.6601	0.0000	OK
15 minute winter	S15	10	51.795	0.186	46.2	0.3253	0.0000	OK
15 minute winter	S16	10	51.615	0.099	47.8	0.1122	0.0000	OK
15 minute winter	S17	10	51.018	0.103	73.2	0.1783	0.0000	OK
15 minute winter	S9	10	52.643	0.064	19.9	0.1001	0.0000	OK
15 minute winter	S10	10	51.091	0.203	126.1	0.5442	0.0000	OK
15 minute winter	S11	10	50.961	0.109	20.6	0.1564	0.0000	OK
15 minute winter	S12	10	50.836	0.180	185.7	0.3098	0.0000	OK
15 minute winter	S13	10	49.412	0.219	274.8	0.6268	0.0000	OK
15 minute winter	S14	11	47.288	0.350	516.3	0.9571	0.0000	OK
960 minute winter	BASIN	945	46.584	1.422	58.6	4.8523	0.0000	OK
960 minute winter	S19	945	46.584	1.540	37.2	2.7207	0.0000	SURCHARGED
960 minute winter	S20	945	44.819	0.040	7.4	0.0454	0.0000	OK
960 minute winter	S21	945	42.946	0.042	7.4	0.0473	0.0000	OK
15 minute winter	S18	10	47.557	0.137	123.5	0.2626	0.0000	OK
960 minute winter	S22	945	40.589	0.065	7.4	0.0730	0.0000	OK
960 minute winter	Outfall	945	40.475	0.065	7.4	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	1.000	S2	69.4	2.122	0.868	1.2717	
15 minute winter	S2	1.001	S3	89.8	2.259	0.925	1.1468	
15 minute winter	S3	1.002	S4	129.4	1.838	1.498	1.4381	
15 minute winter	S4	1.003	S5	220.4	3.131	2.112	0.9650	
15 minute winter	S5	1.004	S6	248.2	5.011	1.021	0.8261	
15 minute summer	S6	1.005	S7	244.9	0.713	0.046	60.2538	
15 minute winter	S7	1.006	S8	161.7	1.022	2.618	2.6067	
15 minute winter	S8	1.007	S14	196.9	0.942	1.655	8.0645	
15 minute winter	S15	4.000	S16	47.8	1.805	1.182	0.3970	
15 minute winter	S16	4.001	S17	45.5	2.634	0.400	0.2191	
15 minute winter	S17	4.002	S18	72.4	3.364	0.433	0.7352	
15 minute winter	S9	2.000	S10	19.7	1.543	0.179	0.5925	
15 minute winter	S10	2.001	S12	124.9	2.633	0.815	0.5801	
15 minute winter	S11	3.000	S12	20.2	1.066	0.478	0.3452	
15 minute winter	S12	2.002	S13	184.4	4.196	0.678	1.0270	
15 minute winter	S13	2.003	S14	273.0	4.968	0.892	1.4321	
15 minute winter	S14	1.008	BASIN	517.4	3.038	0.639	2.2091	
960 minute winter	BASIN	Flow through Pond	S19	28.0	0.041	0.001	1212.0511	
960 minute winter	S19	1.010	S20	7.4	1.000	0.182	0.3268	
960 minute winter	S20	1.011	S21	7.4	1.495	0.070	0.2267	
960 minute winter	S21	1.012	S22	7.4	1.030	0.076	0.4967	
15 minute winter	S18	4.003	S19	123.0	5.198	0.695	0.6769	
960 minute winter	S22	1.013	Outfall	7.4	0.783	0.182	0.1767	432.0

APPENDIX 6

Exceedance Flow Plan



DO NOT SCALE this drawing. Use figured dimensions only.
The Contractor must check & verify all dimensions on site.
Any discrepancies must be reported immediately to the Engineer for clarification before proceeding.
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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
Refer to the relevant Construction (Design and Management) documentation where applicable.
It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

- Key:**
- Site Boundary
 - Exceedance Flow Route
 - Major Contour (0.50m)
 - Minor Contour (0.10m)

P02	24/10/25	Updated to include latest layout	AM
P01	16/10/25	First Issue	AM
Rev	Date	Description	By
Client			
Redcliffe Homes Ltd			

Project
Melksham Road, Holt

Title
Exceedance Flow Plan

Drawing Status				
PLANNING				
Drawn	Checked	Approved	Date	Scale @ A1
AM	NT	NT	AUG 2025	1:500
Project No.		Drawing No.		Revision
138078		138078-MCS-XX-DR-C-5500		P02